<u>REMARKS</u>

By this amendment, claims 1, 13, 14 and 30 have been amended to merely clarify the recited subject matter, claims 2-5, 12, 16-19 and 31-34 have been cancelled without prejudice or disclaimer. New claims 35-43 are patentable over the cited prior art for reasons commensurate with claims 1 and 30 explained herein.

Although the Office Action indicated that claims 6, 15 and 31 included allowable subject matter and would be allowable if rewritten in independent format, Applicants delay rewriting those claims at this time to afford the Examiner the full opportunity to reconsider the rejected base claims.

Applicants submit that the amended claims fully overcome the objections and rejections under 35 U.S.C. 112 included in the outstanding Office Action.

Claims 1-5, 12, 16-17, 30 and 32-34 were rejected under 35 U.S.C. 102(e) as being anticipated by Willars et al. (U.S. 6,449,290; hereafter "Willars"), claims 18-19 were rejected under 35 U.S.C. 103(a) based on Willars. Applicants submit that the cancellation of claims 2-5, 12, 16-19 and 32-34 render the rejection of those claims moot. Applicants traverse the rejections of the remaining claims because Willars fails to disclose teach or suggest all of the features recited in the rejected claims.

For example, Willars fails to disclose, teach or suggest:

◆ A method for synchronizing transmission of frames "wherein the connection-specific timing reference comprises, at the end nodes, a connection-specific frame number, which is stepped at predetermined intervals and which has a finite length such that the connection-specific frame number has a period which is shorter than an average duration of a connection," as recited in independent claim 1 and its dependent claims.

◆ A first end node for "establishing a connection-specific timing reference which is common to all nodes involved in the connection, . . .wherein the connection-specific timing reference comprises: a connection-specific frame number, the value of which is stepped at predetermined intervals and which has a finite length such that the connection-specific frame number has a period which is shorter than an average duration of a connection; and a frame number extension which is stepped when the connection-specific frame number completes one period; and that when a connection is being established, re-established or handed over, the first end node is adapted to send to the second end node an initialization parameter for the frame number extension, for initializing the frame number extension to a value which exceeds the last value of the frame number extension during a previous connection," as recited in independent claim 30 and its dependent claims;

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♦   A method for synchronizing transmission of frames comprising "establishing a connection-specific timing reference which is common to all nodes involved in the connection . . . wherein the connection-specific timing reference comprises, at the end nodes, a connection-specific frame number and a frame number extension which is stepped when the connection-specific frame number completes one period," as recited in independent claim 35 and its dependent claims;

♦   A method for synchronizing transmission of frames comprising "establishing a connection-specific timing reference which is common to all nodes involved in the connection; . . .wherein the connection-specific timing reference comprises at the end nodes, a connection-specific frame number, which is stepped at predetermined intervals and which has a finite length such that the connection-specific frame number has a period which is shorter than an average duration of a connection; and a frame number extension, which is stepped when the connection-specific frame number completes one period," as recited in independent claim 41;

♦   A first end node for "establishing a connection-specific timing reference which is common to all nodes involved in the connection, . . .wherein the connection-specific timing reference comprises a connection-specific frame number, the value of which is stepped at predetermined intervals and which has a finite length such that the connection-specific frame number has a period which is shorter than an average duration of a connection," as recited in independent claim 42; and

♦   A first end node for "establishing a connection-specific timing reference which is common to all nodes involved in the connection, . . .wherein the connection-specific timing reference comprises a connection-specific frame number and a frame number extension which is stepped when the connection-specific frame number completes one period, and, when a connection is being established, re-established or handed over, the first end node is adapted to send to the second end node an initialization parameter for the frame number extension, for initializing the frame number extension to a value which exceeds the last value of the frame number extension during a previous connection," as recited in independent claim 43.

Rather, Willars merely teaches minimizing the synchronization error between information frames which are sent to a specific mobile station from two or more asynchronous base stations or sectors, wherein a phase difference is permitted between signals transmitted from at least two different base stations and clock units in different base stations are not locked to each other. In Willars, certain system frame counter states are generated in a central node in the system--a radio network control node--being connected to one or more base stations. Corresponding local frame counter states are generated in each base station in the system. A current sample of the system frame counter state is regularly sent out from the radio network control node to its connected base stations, to synchronize

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each local frame counter with the system frame counter state, which functions as a frame numbering reference within the cellular radio communications system. Each of the base stations adjust their local frame counter states, so that they are all aligned with the system frame counter state. Synchronization of data packets being communicated via the base stations is then accomplished by sending one data packet per data frame, which is numbered in accordance with a frame counter state.

Establishment of a connection between a particular mobile station and at least one base station, which is based on the synchronization, is performed by first defining an active set comprising at least one downlink and one uplink channel for a mobile station. A timing advance value is then set for each downlink channel in the active set. The timing advance value specifies an offset between a common downlink control channel for the sector and the downlink channel in question, and is chosen to be a value which results in the most uniform distribution of the transmission load on the network and radio resources in the system, in respect to the connections already in progress. Each base station then measures, at regular intervals, a common downlink control channel offset between its local frame counter states and the common downlink control channel for each of its sectors. The results of the measurements are reported to the central node. Subsequently, a downlink channel offset is calculated by adding the common downlink control channel offset to the timing advance value.

Finally, a specific frame number is assigned to each data frame on each respective downlink channel. The frame number indicates in which data frame a particular data packet, that is received from the central node, shall be transmitted. The local frame counter is, on average, incremented at a tick rate which corresponds to one tick per the duration of a data frame. However, due to adjustments of the local frame counter according to updates from the system frame counter state the local frame counter may temporarily have a tick rate, which is either slightly higher or slightly lower than one tick per the duration of a data frame. Subsequent data frames are allocated frame numbers according to their order in relation to the initial data frame.

Willars also teaches a method for commencing communication with a particular mobile station which is already communicating information by utilizing the synchronization. A frame offset between a downlink channel in the active set and a common downlink control channel of a candidate sector for an ASU is measured by the mobile station. Subsequently, the frame offset value is reported to a central node. Next, the second sector is added to the

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active set. A timing advance value and a downlink channel offset value for a downlink channel in the second sector is then calculated. The offset between the data frames to be transmitted on the downlink channel in the second sector and the common downlink control channel for this sector is then set equal to the timing advance value. Finally, a specific frame number is given to each data frame on the downlink channel in the second sector. This is carried out by assigning an initial data frame, which starting from the local frame counter state in the base station serving the second sector plus the downlink channel offset value, falls within half the duration of a data frame a frame number equal to the following local frame state in the base station serving the second sector. Each subsequent data frame is then allocated an integer incrementation of the initial number, which is equal to the order of each respective data frame in relation to the initial data frame.

However, Willars fails to disclose, teach or suggest connection-specific timing references that comprise, at he end nodes, (1) a connection-specific frame number,. . . . which has a finite length and a period which is shorter then an average duration of a connection. Additionally, Willars fails to disclose, teach or suggest the use of frame number extension which is stepped when the connection-specific frame number completes one period.

Therefore, Willars fails to disclose, teach or suggest the claimed method and an end node where a connection-specific timing reference comprises a connection-specific frame number (CFN, Connection Frame Number) which is stepped at predetermined intervals and which has a finite length such that the connection-specific frame number has a period which is shorter than an average duration of a connection, as recited in independent claims 1 and 42 respectively. Similarly, Willars fails to disclose, teach or suggest the claimed method and an end node where a connection-specific timing reference comprises a frame number extension (HFN, Hyper Frame Number) which is stepped when the connection-specific frame number completes one period, as recited in independent claims 35 and 43, respectively.
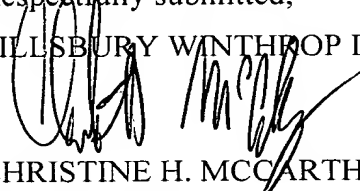
Further, Willars fails to disclose, teach or suggest the claimed method and an end node where a connection-specific timing reference comprises a connection-specific frame number (CFN, Connection Frame Number) which is stepped at predetermined intervals and which has a finite length such that the connection-specific frame number has a period which is shorter than an average duration of a connection, and a frame number extension (HFN, Hyper Frame Number) which is stepped when the connection-specific frame number completes one period, as recited in independent claims 41 and 30, respectively.

Accordingly, claims 1, 13-15, 20-30 and 35-43 are allowable over Willars.

All objections have been addressed. If anything further is necessary to place the application in condition for allowance, Applicants request that the Examiner contact Applicants' undersigned representative at the telephone number listed below.

Please charge any fees associated with the submission of this paper to Deposit Account Number 033975. The Commissioner for Patents is also authorized to credit any over payments to the above-referenced Deposit Account.

Respectfully submitted,

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